Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Currently Amended) An apparatus comprising:

an averaging circuit adapted to provide an averaged channel estimate by performing a time domain averaging and frequency domain averaging on one or more received inputs;

an adaptive equalizer to equalize a received multicarrier symbol based on the averaged channel estimate, ~~and~~ the adaptive equalizer including a mapping block to generate a replica of a transmitted multicarrier symbol for each of a plurality of subcarriers; and

a coarse channel estimator to generate a coarse channel estimate to be input to the averaging circuit, the coarse channel estimator adapted to generate a coarse channel estimate as the received multicarrier symbol divided by the replica of a transmitted multicarrier symbol, per subcarrier.

2. (Original) The apparatus of claim 1 wherein the averaging circuit is adapted to provide an averaged channel estimate by performing a time domain averaging and frequency domain averaging on one or more received channel estimates.

3. (Original) The apparatus of claim 1 wherein the averaging circuit comprises:

a time domain averaging block adapted to perform time domain averaging on a plurality of received channel estimates to generate a time domain averaged channel estimate on a per subcarrier basis;

and a frequency domain averaging block adapted to perform frequency domain averaging on a received time domain averaged channel estimate.

4. (Original) The apparatus of claim 3 wherein the frequency domain averaging block generates frequency domain averaged channel estimates that are used to update coefficients of the equalizer.

5. (Original) The apparatus of claim 3 wherein the time domain averaging block is adapted to perform time domain averaging on a plurality of received channel estimates to generate a time domain averaged channel estimate on a per subcarrier basis using a moving average.

6. (Original) The apparatus of claim 3 wherein the time domain averaging block is adapted to perform time domain averaging on a plurality of received channel estimates to generate a time domain averaged channel estimate on a per subcarrier basis using block averaging.

7-9. (Canceled)

10. (Original) The apparatus of claim 1 wherein the multicarrier symbol comprises an OFDM symbol.

11. (Currently Amended) An apparatus comprising:

an adaptive equalizer to equalize a received multicarrier symbol based on a fine channel estimate, the adaptive equalizer including a mapping block to generate a replica of a transmitted multicarrier symbol for each of a plurality of subcarriers;

a coarse channel estimator to receive the multicarrier symbol replica from the mapping block and a corresponding received multicarrier symbol, the coarse channel estimator to generate a coarse channel estimate as the received multicarrier symbol divided by the replica of a transmitted multicarrier symbol, per subcarrier; and

an averaging circuit adapted to perform time domain averaging on a plurality of coarse channel estimates to generate a time domain averaged channel estimate, and to

perform frequency domain averaging on the time domain averaged channel estimate to generate the fine channel estimate.

12. (Original) The apparatus of claim 11 wherein the averaging circuit comprises a time domain averaging block and a frequency domain averaging block.

13. (Canceled)

14. (Currently Amended) The apparatus of claim 11 ~~13~~ wherein the received multicarrier symbol comprises an OFDM symbol.

15. (Currently Amended) A method comprising:

performing a time domain averaging on one or more received inputs to generate a time domain averaged channel estimate on a per subcarrier basis;

performing a frequency domain averaging on the time domain averaged channel estimate to generate a fine channel estimate;

updating equalizer coefficients based upon the fine channel estimate;

generating a replica of a transmitted multicarrier symbol for each of a plurality of subcarriers; and

generating a coarse channel estimate by dividing a received multicarrier symbol by the generated replica of the corresponding transmitted multicarrier symbol.

16. (Previously Presented) The method of claim 15 wherein the performing a time domain averaging comprises:

performing a time domain averaging on a plurality of coarse channel estimates on a per subcarrier basis to generate a time domain averaged channel estimate.

17. (Canceled)

18. (Currently Amended) A method comprising:

calculating an initial channel estimate based upon one or more received training symbols;

setting equalizer coefficients based upon the initial channel estimate;

performing both time domain averaging and frequency domain averaging on a subsequent calculated channel estimate to generate an averaged channel estimate;

generating a replica of a transmitted multicarrier symbol for each of a plurality of subcarriers;

generating a coarse channel estimate as a received symbol divided by replica of a transmitted multicarrier symbol, per subcarrier; and

updating the equalizer coefficients based upon the averaged channel estimate.